

## **COMMERCIAL S-I**

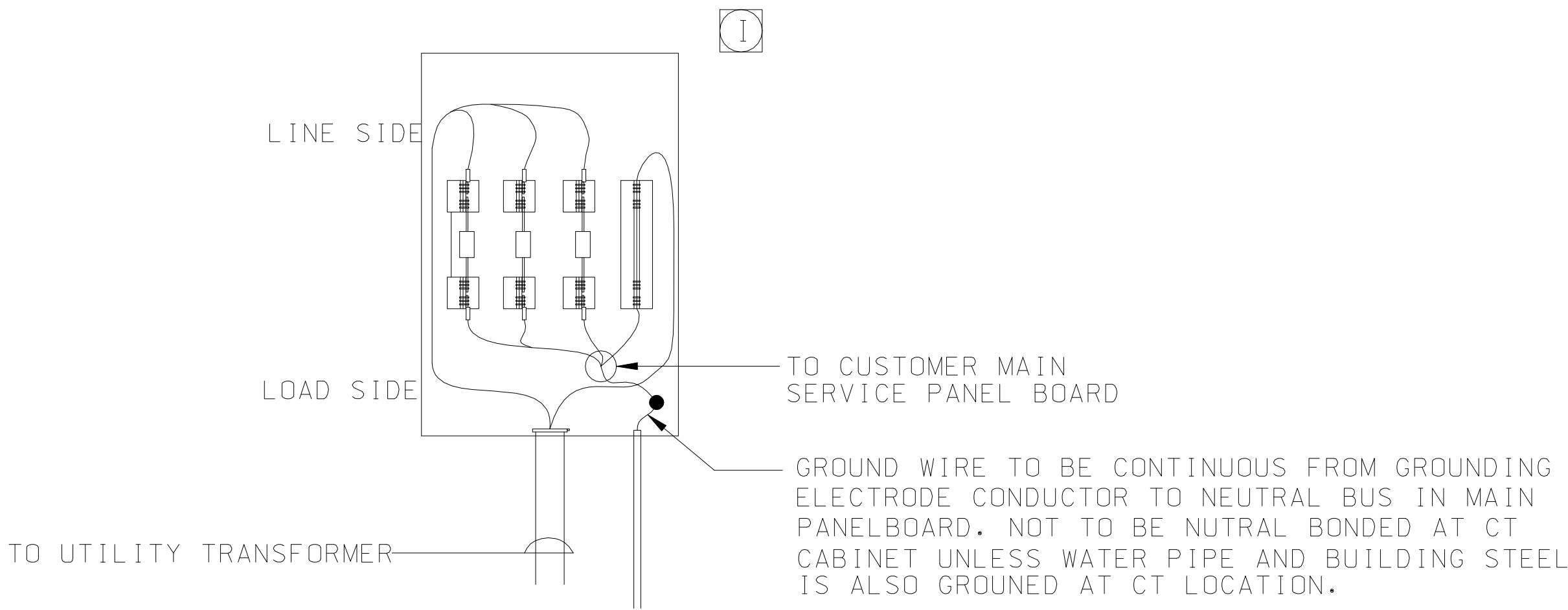
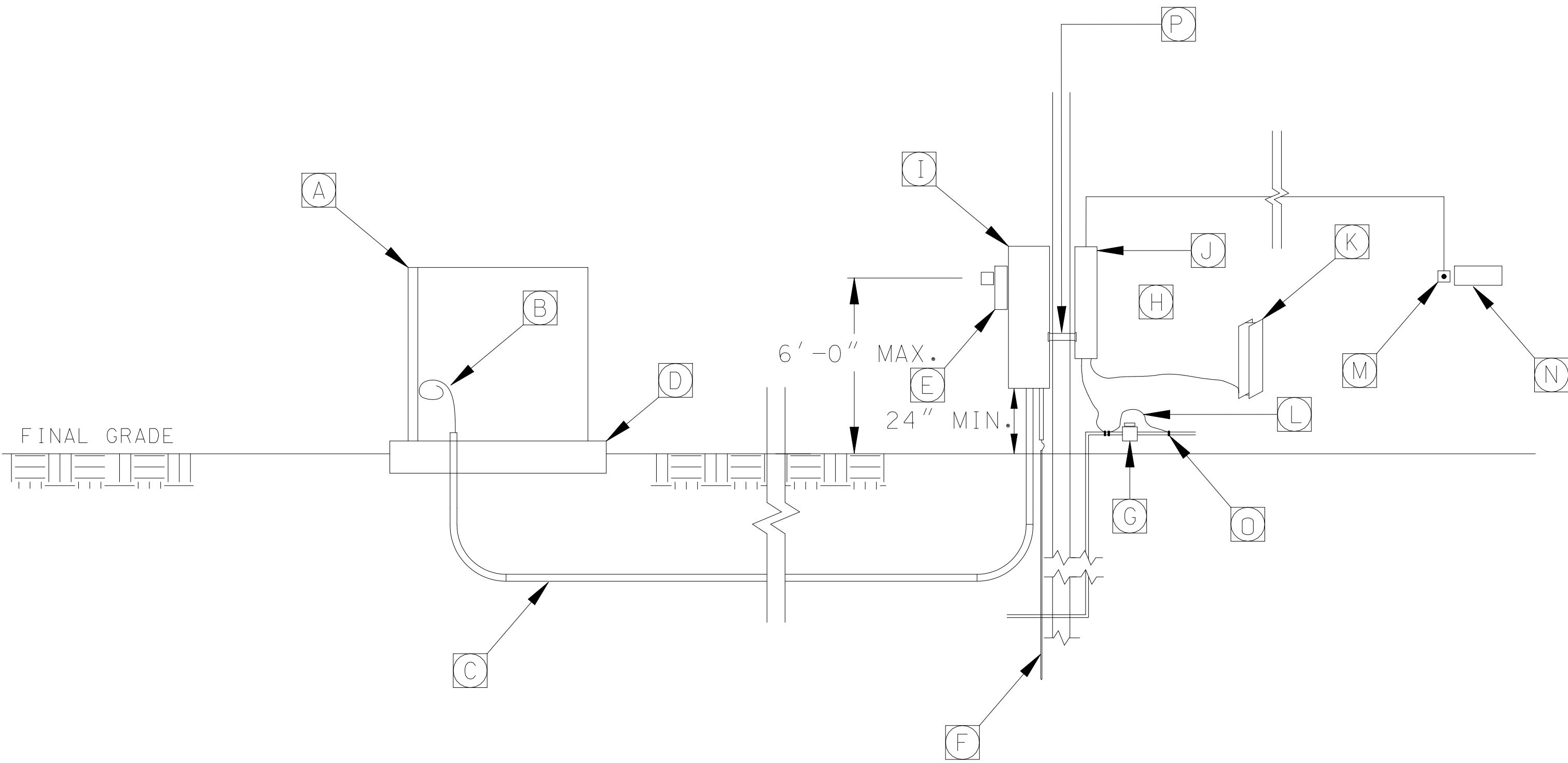
### **NOTICE TO : ALL CONTRACTORS AND RESIDENTS**

Attached please find a copy of the City of St. Charles Municipal Electric Utility's minimum requirements for the installation of a new or upgraded commercial service.

Please review these specific requirements and contact our office at 630-377-4407 if you have any questions.

Thank You,

St. Charles Electric Office  
Fax number: 630-377-7009



CURRENT TRANSFORMER ( "CT" ) CABINET  
DETAIL

CHECKLIST AND LEGEND

- ☐ **A** THREE PHASE PAD MOUNTED TRANSFORMER. PROVIDED BY ST.CHARLES MUNICIPAL ELECTRIC UTILITY ("SCMEU").
- ☐ **B** CONDUCTORS FOR SECONDARY CONNECTION TO CUSTOMER'S SERVICE ENTRANCE EQUIPMENT. CONDUCTORS ARE TO BE SUPPLIED AND INSTALLED BY CUSTOMER'S ELECTRICAL CONTRACTOR ("CONTRACTOR"). COLOR CODE TO BE AS FOLLOWS:
  - 120/208V AND 120/240V RED, BLACK AND BLUE, NEUTRAL AS WHITE (RED IS HIGH PHASE ON 240V, 4 W SERVICE)
  - NOTE: ON 120/240V , 4 W SERVICES INSTALL HIGH PHASE ON RIGHT SIDE AT METER SOCKET AND CT CABINET AND IN CENTER AT MAIN PANELBOARD
  - 277/480V BROWN, ORANGE AND YELLOW, NEUTRAL AS WHITE
- ☐ **C** SECONDARY DUCT TO BE CONCRETE ENCASED SCHEDULE 40 PVC CONDUIT. DUCT TO BE INSTALLED IN A MANNER CONSISTENT WITH SCMEU'S \*INSTALLATION REQUIREMENTS FOR PAD MOUNTED TRANSFORMERS\*. ALL CONDUIT ABOVE GROUND IS TO BE INSTALLED AS RGS. ALL ELBOWS TO BE RGS, WITH MINIMUM BENDING RADIUS OF 36' OR LARGER. ALL RGS CONDUITS ARE TO BE TERMINATED WITH GROUNDING BUSHING.
- ☐ **D** TRANSFORMER PAD TO BE INSTALLED IN A MANNER CONSISTENT WITH SCMEU'S \*INSTALLATION REQUIREMENTS FOR PAD MOUNTED TRANSFORMER'S\*.
- ☐ **E** FOR SERVICES UP TO 200 AMPS AND 240 VOLTS OR LESS, METER SOCKETS TO BE ERICKSON TYPE SMP-SMCB-SU, OR SCMEU APPROVED EQUIVALENT, SUITABLE FOR SERVICE ENTRANCE EQUIPMENT. METER SOCKET INSTALLATION SHALL PROVIDE FOR "HOT SEQUENCE" METERING.

METER SOCKET SHALL BE INSTALLED ON THE OUTSIDE OF THE BUILDING SO THAT THE CENTER OF THE METER IS HIGHER THAN 4'-0" AND LESS THAN 6'-0" ABOVE FINAL GRADE.

FOR SERVICES GREATER THAN 200 AMPS AND/OR VOLTAGES 480 VOLTS AND ABOVE, METER SOCKETS SHALL BE PART OF A UNITIZED AND PRE-WIRED METER SOCKET/CURRENT (AND POTENTIAL) TRANSFORMER CABINET. CURRENT TRANSFORMER CABINET IS TO BE INSTALLED SO THAT CENTER OF METER ON ATTACHED METER SOCKET IS HIGHER THAN 4'-0" AND LESS THAN 6'-0" ABOVE FINAL GRADE.

NOTE: SCMEU REQUIRES METER WIRING TO CONSIST OF #12 AWG FOR POTENTIALS AND #10 AWG FOR CURRENTS. CT CABINET TO INCLUDE APPROVED TEST SWITCHES.
- ☐ **F** GROUNDING ELECTRODE TO BE SIZED AND INSTALLED PER SECTION 250-52 OF THE 2002 NEC. GROUNDING ELECTRODE CONDUCTOR SHALL BE INSTALLED TO PERMIT INSPECTION OF GROUND CONNECTION AT ALL TIMES. COPPER GROUND CONDUCTOR SHALL BE SIZED PER NEC AND PROTECTED BY USE OF METAL CONDUIT OF SUITABLE SIZE. GROUNDING ELECTRODE GROUND CONDUCTOR SHALL BE MADE CONTINUOUS TO GROUND/NEUTRAL BUS AT MAIN SWITCHBOARD BY USE OF COMPRESSION TYPE SPADE-LUG CONNECTORS. GROUND CONDUCTOR TO BE BONDED TO THE CURRENT TRANSFORMER CABINET. CONNECTIONS TO GROUNDING ELECTRODE TO BE MADE BY USE OF EXOTHERMIC CONNECTIONS.
- ☐ **G** MAIN WATER METER.
- ☐ **H** CONNECT GROUNDING ELECTRODE CONDUCTOR TO EXPOSED BUILDING STRUCTURAL STEEL MEMBER AS REQUIRED BY SECTION 250-104(d) OF THE 2002 NEC. GROUNDING ELECTRODE CONDUCTOR TO BE COPPER AND SIZED PER TABLE 250-66 OF THE 2002 NEC. CONDUCTOR TO BE TERMINATED BY USE OF COMPRESSION-TYPE SPADE LUG CONNECTOR OR EXOTHERMIC WELD.
- ☐ **I** CURRENT TRANSFORMER ("CT") CABINET FOR SERVICES GREATER THAN 200 AMPS. CT CABINET TO BE ERICKSON TYPE CECT-93, OR SCMEU APPROVED EQUIVALENT. CT CABINET TO BE FURNISHED AND INSTALLED BY CONTRACTOR WITH APPROVED 13-TERMINAL METER SOCKET WITH TEST SWITCHES AND SHALL INCLUDE A PRE-WIRED HARNESS. CABINET TO BE INSTALLED SO THAT CENTER OF METER AND METER COMBINATION IS HIGHER THAN 4'-0" AND LESS THAN 6'-0" ABOVE FINAL GRADE. THE BOTTOM OF THE CT CABINET MUST BE AT LEAST 24" ABOVE FINAL GRADE.

FOR UNDERGROUND SERVICES 1200 A OR GREATER, BOTTOM FED CT'S MAY BE ALLOWED-WITH APPROVAL FROM UTILITY CONTACT CITY OF ST.CHARLES ELECTRIC ENGINEER.

CONTRACTOR TO VERIFY WITH SCMEU BUS MOUNTING DIMENSIONS FOR CURRENT TRANSFORMERS.
- ☐ **J** MAIN CIRCUIT BREAKER (ONLY ONE ALLOWED). SERVICE ENTRANCE EQUIPMENT SHALL BE BRACED FOR MAXIMUM AVAILABLE SHORT CIRCUIT CURRENT. FOR SERVICES 800 AMPS OR GREATER, SERVICE ENTRANCE SHALL INCLUDE A SHUNT TRIP FEATURE TO PERMIT REMOTE TRIPPING OF THE MAIN CIRCUIT BREAKER FROM A KEYED SWITCH LOCATED ADJACENT TO THE BUILDINGS FIRE ALARM ANNUNCIATOR PANEL.
- ☐ **K** EXPOSED INTERIOR BUILDING STRUCTURAL STEEL COMPONENT THAT IS NOT INTENTIONALLY GROUNDING.
- ☐ **L** CONNECT GROUNDING ELECTRODE CONDUCTOR TO CITY'S INCOMING METAL WATER PIPE. GROUNDING ELECTRODE CONDUCTOR TO INCLUDE BONDING JUMPER PERMANENTLY INSTALLED ACROSS WATER METER AND SIZED PER 1999 NEC.
- ☐ **M** FOR ELECTRIC SERVICE ENTRANCE 800 AMPS OR GREATER, SHUNT TRIP ACTUATOR INSTALLED ADJACENT TO FIRE ALARM ANNUNCIATOR PANEL AND IN CONFORMANCE WITH THE REQUIREMENTS OF THE CITY OF ST.CHARLES FIRE DEPARTMENT.
- ☐ **N** FIRE ALARM ANNUNCIATOR PANEL ("FAAP")
- ☐ **P** CONDUIT SHALL BE RGS OR IMC, UNLESS A BREAKER IS INSTALLED ON THE SOURCE SIDE OF THIS CONDUIT. IF A BREAKER IS INSTALLED ON THE SOURCE SIDE, THEN THE CONDUIT MAY BE EMT.

ASSEMBLY: S1  
COMMERCIAL

ST. CHARLES  
MUNICIPAL  
ELECTRIC UTILITY  
ESTABLISHED IN 1897

CITY OF ST. CHARLES  
LARGE COMMERCIAL/INDUSTRIAL FACILITY  
MAIN ELECTRIC SERVICE STANDARDS